

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,032,719 B2  
DATED : April 25, 2006  
INVENTOR(S) : Takachi

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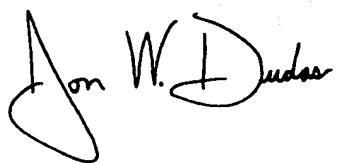
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page, showing an illustrative figure, should be deleted and substitute the attached title page.

Delete drawing sheets 1-5 and substitute the drawing sheets consisting of FIGS 1-5 as shown on the attached pages.

Signed and Sealed this

Sixth Day of June, 2006



JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) United States Patent  
Takachi

(10) Patent No.: US 7,032,719 B2  
(45) Date of Patent: Apr. 25, 2006

(54) BICYCLE HUB WITH AN OUTSIDE-ACCESSIBLE BRAKE FORCE ADJUSTING MECHANISM

(75) Inventor: Takeshi Takachi, Kawachinagano (JP)

(73) Assignee: Shimano, Inc., Sakai (JP)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/604,814

(22) Filed: Aug. 19, 2003

(65) Prior Publication Data

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(30) Foreign Application Priority Data

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(51) Int. Cl.  
B62L 5/00 (2006.01)  
B60T 1/06 (2006.01)

(52) U.S. CL ..... 188/26; 188/17

(58) Field of Classification Search ..... 188/17,  
188/24.11, 26; 301/110.5, 105.1

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

3,799,472 A *	1/1974 Svensson .....	242/270
4,109,762 A *	8/1978 Wood .....	188/26
5,456,336 A *	10/1995 Bopp .....	188/17
5,570,760 A *	11/1996 Lai .....	188/26
6,559,564 B1 *	5/2003 Itou .....	310/67 A
2003/0057032 A1 *	3/2003 Liu .....	188/24.11

FOREIGN PATENT DOCUMENTS

EP	688 713 A2 12/1995
EP	1122094 A2 * 8/2001

OTHER PUBLICATIONS

Patent Abstracts of Japan, vol. 018, No. 605 (M-1706), published Nov. 17, 1994; for JP 06-227472 A (Nakano), published Aug. 16, 1994.

\* cited by examiner

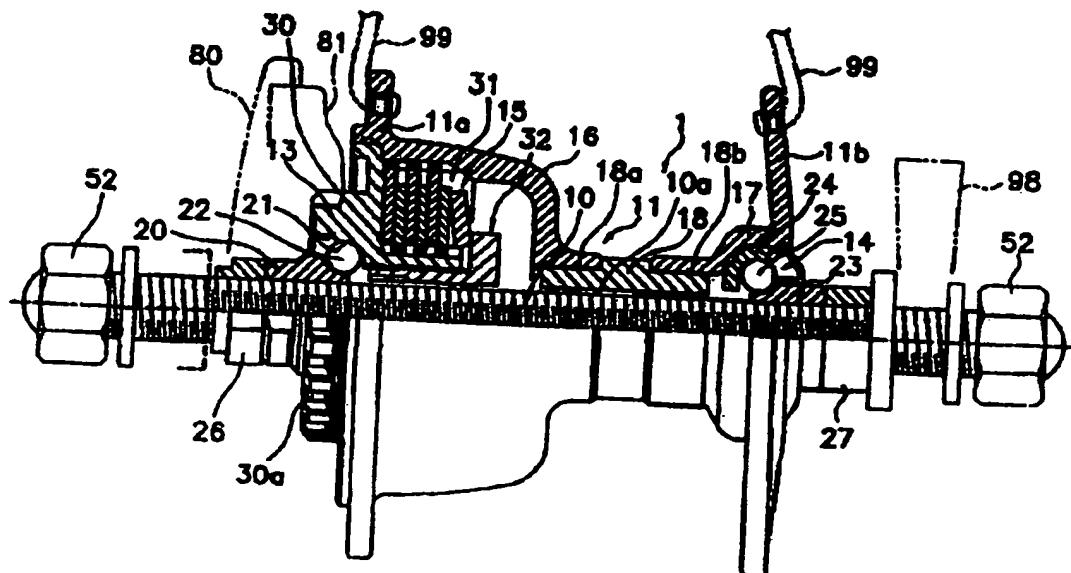
Primary Examiner—Thomas Williams

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(57) ABSTRACT

A bicycle hub comprises a hub shaft structured to be rotatably mounted to a bicycle frame, a hub shell rotatably supported relative to the hub shaft, and a brake force control mechanism housed by the hub shell. The brake force control mechanism includes a brake force adjusting mechanism that can be accessed for adjustment while the brake force control mechanism is housed within the hub shell.

26 Claims, 5 Drawing Sheets



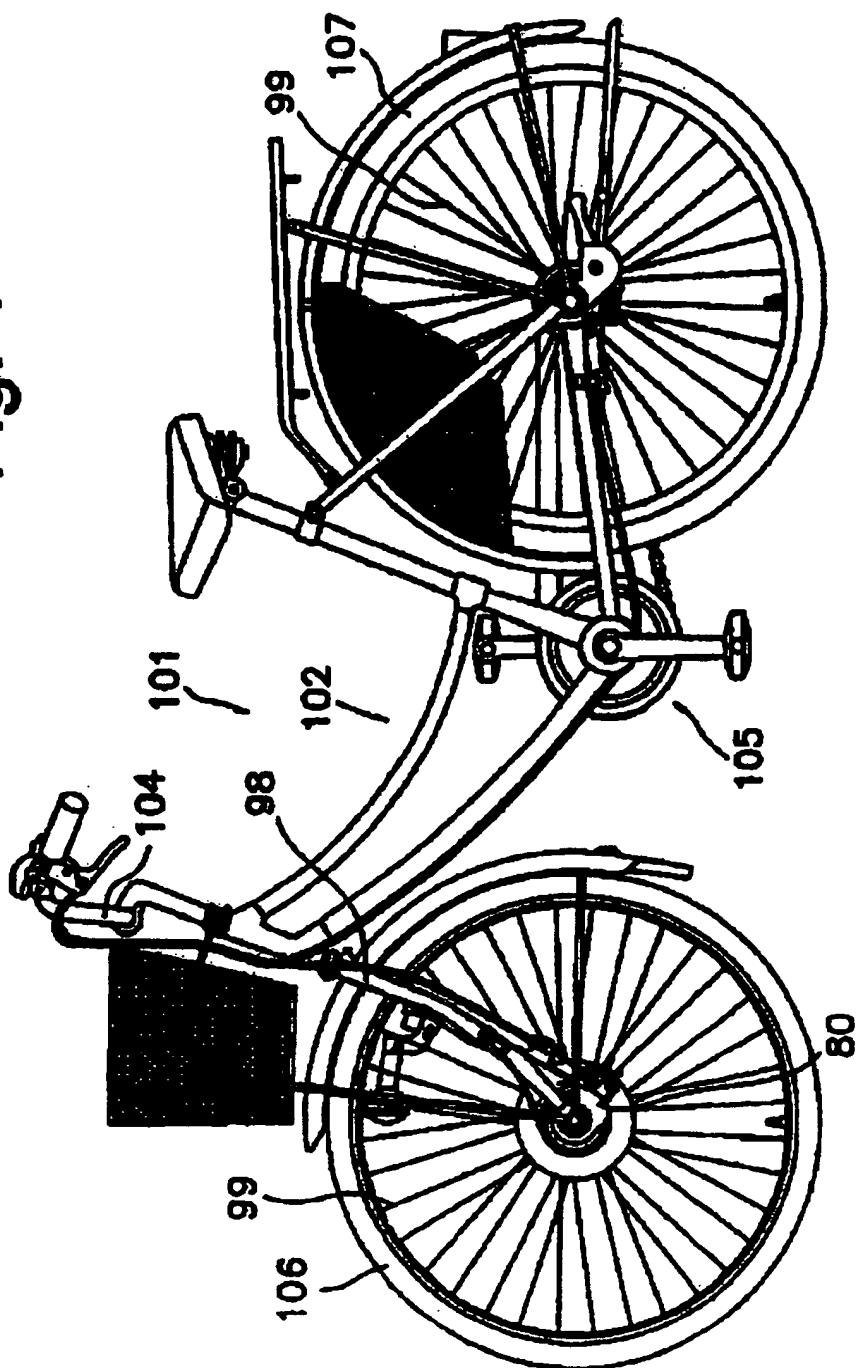
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Fig. 1

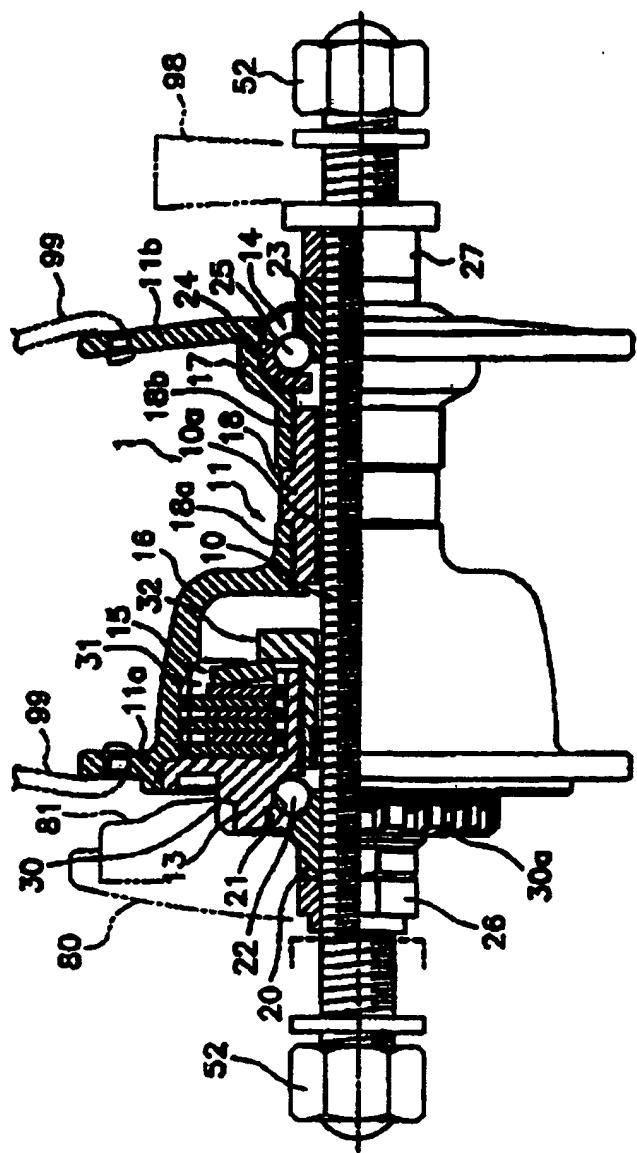


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# **Fig. 2**

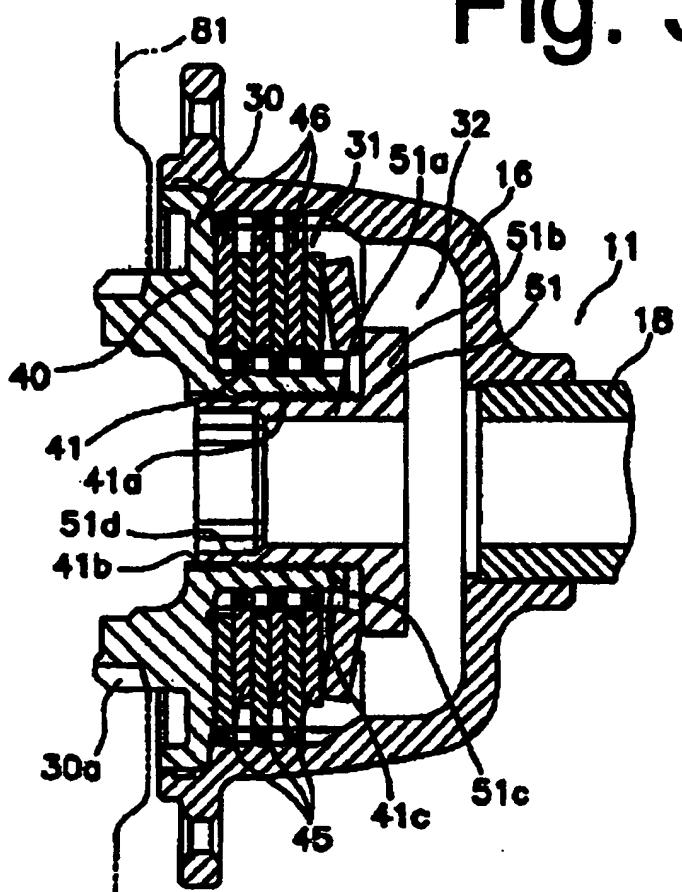
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Fig. 3

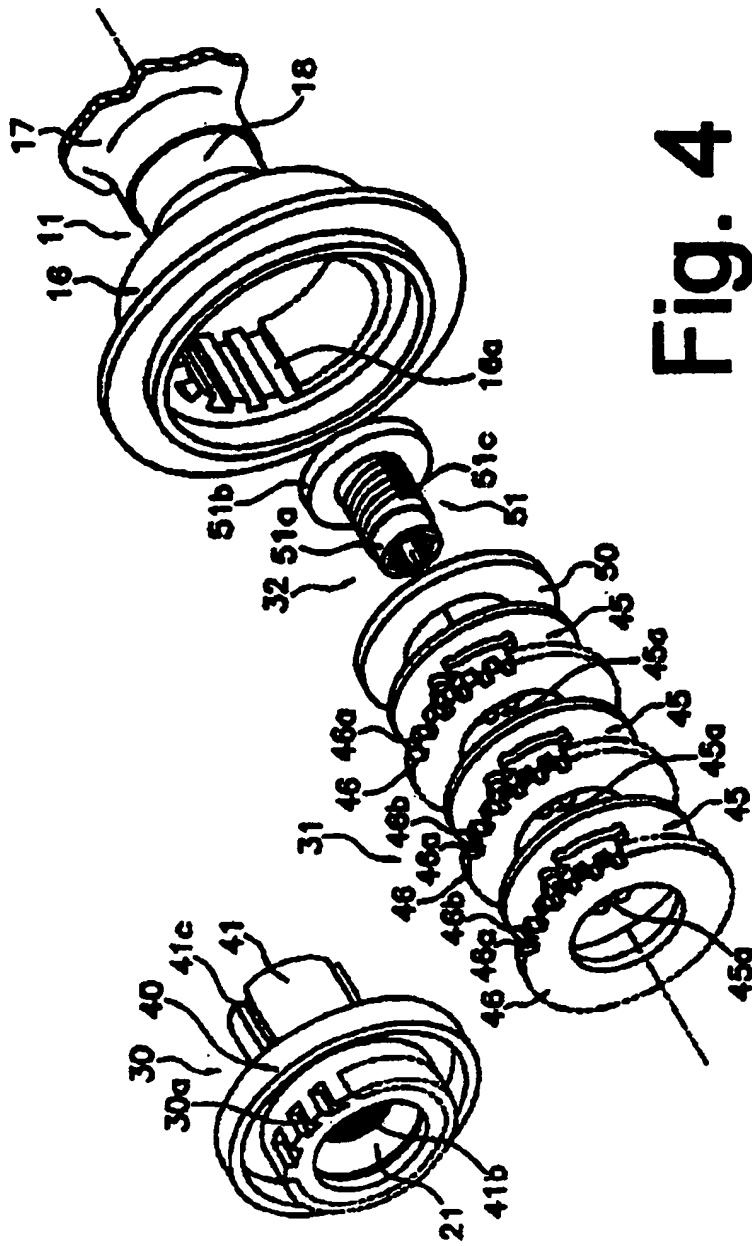


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**Fig. 4**

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**Fig. 5**